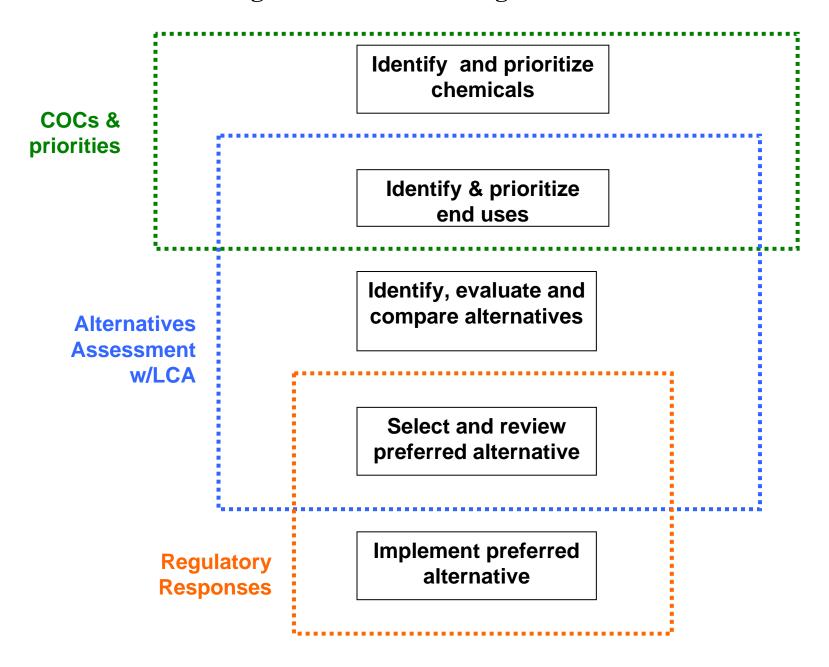
Alternatives Assessment

Choosing safer substitutes

Regulations for Choosing Safer Alternatives



Alternatives Assessment and Considerations

Determine functionality Can the product or chemical be and need for chemical replaced, eliminated or otherwise or product changed? **Identify** potential Is the process different for existing alternatives alternatives vs. new alternatives? Identify positive and Regs will specify attributes; what negative attributes of should be included? Should they be alternatives classified as essential and modifying? Assess the attributes Regs will specify what should be considered in the assessment and and compare them comparison; what should be included? **Identify** safer Regs will specify some of these alternatives decision rules; what should they be? How can the regulatory responses drive Select safer alternative this decision?

Alternatives Attributes

- Lifecycle approach
- Factors in regs:
 - Product function, useful life, materials/resource consumption, water conservation/quality impacts, air emissions, energy inputs & efficiency, GHG emissions, waste/EOL, public health impacts, environmental impacts, economic impacts
- Others?

Models for Assessing and Comparing Attributes

- Many existing options
 - Open source
 - Proprietary
- Regs specify what the models/modules should consider and assess
- Users select suitable approach

Hierarchy of Preferences - Considerations

- Available info vs. no data
- 12 principles of green chemistry and green engineering
- Acute toxicity, chronic toxicity, EDC
- Consumer exposure, sensitive subpopulations
- Others?

Specific Questions

- What attributes should the alternatives assessment consider?
- Are some more important than others?
- How should the attributes be compared?
- What decision rules should be considered for comparison?
- Should prioritization be included as part of alternatives assessment?
- What should the Alternatives Assessment Process in the regs look like?